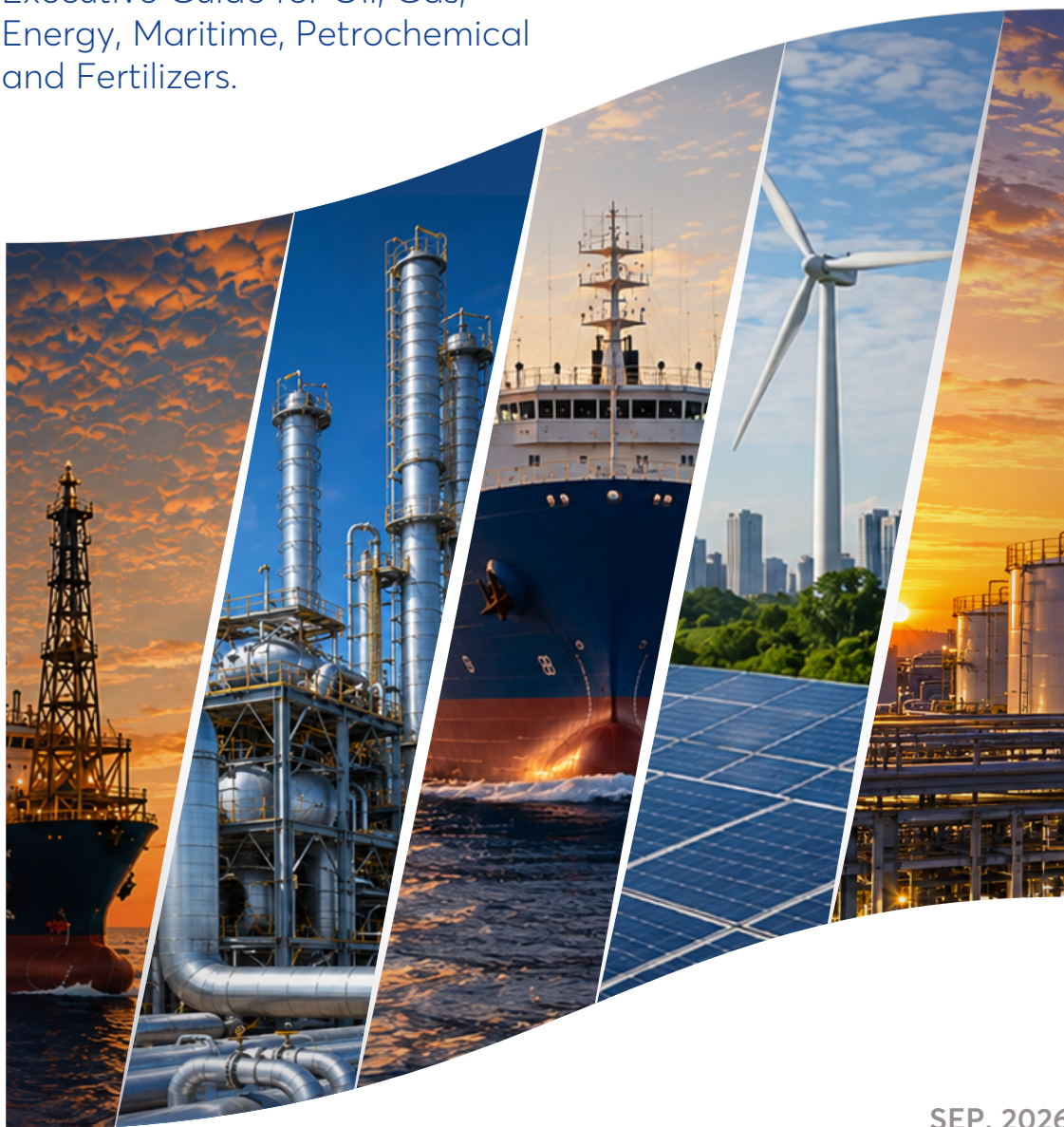


Rio de Janeiro Core Markets Overview

Executive Guide for Oil, Gas,
Energy, Maritime, Petrochemical
and Fertilizers.



SEP. 2026

Cataloging-in-Publication Data

S474s SENAI. Departamento Regional do Rio de Janeiro
Rio de Janeiro core markets overview: executive guide for oil gas,
energy, Maritime, petrochemical and fertilizers / Firjan SENAI SESI. –
Rio de Janeiro : [s.n], 2026
40 p. : ill., color.

1. Petroleum industry. 2. Natural gas industry. 3. Energy industries.
4. Maritime industry. 5. Petrochemical industry. 6. Fertilizer industry.
7. Economic development. 8. Rio de Janeiro (State). I. Firjan SESI.
I. Title.

DDC 338.98

Institutional Credits

Firjan – Federation of Industries of the State of Rio de Janeiro

President

Luiz Cesio Caetano

1st Vice President, Firjan

Carlos Erane de Aguiar

2nd Vice President, Firjan

Henrique Antônio Nora Oliveira Lima Junior

1st Vice President, CIRJ

Isadora Landau Remy

2nd Vice President, CIRJ

Antonio Carlos Vilela

Executive Director of Operations Firjan, Executive Director SESI SENAI

Alexandre dos Reis

Director of Operations and Business

Carlos Magno Lucas do Nascimento

Director of Industrial Relations

Cesar Kayat Bedran

Director of Compliance, Legal Affairs and Government Relations

Gisela Pimenta Gadelha

Director of Industrial and Economic Development

Luciana Costa M. de Sá

Director of Corporate Services

Luciana Costa Marques de Sá (Acting)

Director of Education and Culture

Vinícius Cardoso

TECHNICAL CONTENT

GENERAL MANAGEMENT – OIL & GAS, ENERGY AND MARITIME

General Manager – Oil & Gas, Energy and Maritime

Karine Barbalho Fragoso de Sequeira

Project Manager

Thiago Valejo Rodrigues

Scenarios Manager

Savio Bueno Guimarães Souza

Relationships and Partnerships Manager

Juliana de Castro Lattari

Technical Team

Bernard Melo Campos

Carina de Souza Torres

Carolina de Moraes Ribeiro

Fábio Zaccaro Scelza

Felipe da Cunha Siqueira

Flávia Almeida Costa

Guilherme de Castro e Souza

Iva Xavier da Silva

Júlia Martins Aragão Pontes

Letícia Cristina Pereira C. Nascimento

Manuella Gonçalves Lopes

Maria Eduarda Domingos de Menezes

Pedro Rodrigues da Silva Neto

Priscila Lima dos Santos Gomes

Raphaella de Moraes Chagas

Wilson Koji Matsumoto

GRAPHIC DESIGN

GENERAL MANAGEMENT – REPUTATION AND COMMUNICATION

General Manager – Reputation and Communication

Luiz Phillipe Steenhagen Blower

Manager – Strategic Communication and Consulting

Amanda Zarife

Manager – Brand and Communication

Fernanda Marino

Brand and Communication Solutions Coordinator

Fabio Neves

Technical Team

Clara Marques

Júlia Caminha

Matheus Dames

Editorial

The Federation of Industries of the State of Rio de Janeiro (Firjan) presents, in its first edition, this Executive Summary featuring the key findings from publications on the oil, natural gas, energy, maritime, petrochemical, and fertilizer industries. The publication also offers a more comprehensive perspective of the state of Rio and our international relations.

The publication provides an overview of market conditions, infrastructure, investments, regulation, and the prospects for industry segments that are key to the economies of Rio de Janeiro and Brazil.

With a mission to collaborate with the industries of the state across a wide range of sectors, Firjan works to attract an ever-increasing number of industrial activities to Rio de Janeiro. Among the various economic sectors and segments of the state, the oil and gas market stands out as the state is the main production hub for the country, with dedicated and supporting infrastructure that shapes the territory of Rio de Janeiro and drives a wide range of supporting activities. The ability of Brazil to transform its natural resources, diversity, and human capital into economic growth — a combination particularly evident in Rio de Janeiro — highlights the importance of the state in attracting new investments, creating new production chains and developing solutions to meet the demands posed by these markets, as well as by new energy production routes.

Rio de Janeiro gathers a significant portion of the national production, an extensive energy infrastructure,

companies of different sizes, research centers, suppliers, and highly qualified professionals, making the territory of Rio de Janeiro a strategic hub.

Firjan, combining institutional dialogue, advocacy for a more efficient business environment, and knowledge generation, has consolidated and maintained a set of data and information that supports the private sector and public decision-makers.

The analyses compiled here are the result of ongoing monitoring of these markets and the dialogue of the Federation with companies, government agencies, regulators, research institutions, and other agents in the supply chains. They reflect an approach that is closely aligned with the industry and attentive to the factors that influence its growth, productivity, and ability to generate jobs, income, and development.

By making this information accessible to a wider audience, Firjan also seeks to highlight the scale, diversity, and potential of the industry in Rio de Janeiro. The state has significant advantages, and highlighting these unique strengths is part of the effort needed to turn economic potential into concrete results.

We hope that this Executive Summary and FIRJAN's publications will help to expand knowledge about the industry in Rio de Janeiro and bring together companies, investors, and institutions interested in the opportunities offered by the State.

Luiz Césio Caetano

President of the Firjan

Presentation

Over the years, the Federation of Industries of Rio de Janeiro has been steadily building continuous efforts to generate, organize, and disseminate knowledge aimed at the industrial development of the state and the country. Studies, publications, sector analyses, data panels, and special projects provide a solid foundation of information that supports companies, decision-makers, investors, research institutions, and various agents directly or indirectly involved in supply chains.

This publication compiles some of the key findings of this effort, presenting an integrated perspective from Firjan and its partners on some of the main markets in the state of Rio de Janeiro and their potential. This overview is based on data, analyses, and insights collected over the course of a career dedicated to understanding market changes, identifying opportunities, anticipating challenges, and contributing to more assertive decisions.

The covered topics reflect the scope and complexity of the industry. Oil and gas, maritime industry, petrochemicals and fertilizers, renewable energy, energy transition, infrastructure, investments, industrial projects, and market development are among the topics in this publication. These interconnected areas have that go beyond their own boundaries, affecting suppliers, service providers, workers, municipalities, consumers, and the entire economy.

In markets shaped by technological, regulatory, environmental, and geopolitical changes, access to reliable and contextualized information is essential. Data and analysis make it possible to scale activities, track trends, and identify significant developments.

The scope of industrial activities, the presence of leading companies and institutions, the available infrastructure and the concentration of technical expertise make the state a key environment for the development of projects, investments, and new solutions. At the same time, the impact of these activities goes beyond the borders of the state of Rio de Janeiro, influencing national markets and supply chains spread across different regions.

By doing so, Firjan is reinforcing a long-term agenda based on continuity, the consistency of information, and closer ties between industry, government, academy, and society. By compiling the key insights from this set of studies, this publication aims to facilitate access to strategic information and highlight the diversity of the discussed topics. The goal is to provide a comprehensive overview that highlights the current scope of industrial activities and the paths that lie ahead.

Via this initiative, Firjan reaffirms their commitment to the generation and dissemination of knowledge as tools for development. By converting data into insights and analysis into actionable recommendations, it contributes to better-prepared markets, more well-founded decisions, and a more competitive, innovative, and sustainable industry.

CONTACT US



oil.gas@firjan.com.br

Investments in the State of Rio de Janeiro (2026–2028)

The state of Rio de Janeiro has characteristics that make it one of the top destinations for investments in Brazil. With a population of approximately 17 million people, the state represents 11% of the national GDP, has the third largest consumer market in the country, and accounts for 52% of the Brazilian GDP within a 500-km radius. Moreover, it is the largest national producer of oil and gas, the top leisure tourism destination in Brazil and home to a diversified economy supported by a solid industrial and service sector.

The strategic location of the state is reinforced by a comprehensive logistics infrastructure consisting of more than 6,000 kilometers of paved roads, 1,200 kilometers of railroads, seven major airports, seven major ports, and more than 40 port facilities, cementing its position as the second-largest gateway for imports of Brazil.

This favorable environment has been accompanied by a robust investment cycle. Currently, **1,882 projects** are in progress, totaling approximately **BRL 327.6 billion** across all regions of Rio de Janeiro state. Moreover, **79 potential projects** have been identified representing approximately **BRL 198.7 billion** in additional investments, highlighting a robust pipeline for the upcoming years.

The **Energy** sector accounts for the largest share of investments, with **BRL 215.7 billion**, driven mainly by

the oil and natural gas industry, which cements the position of Rio de Janeiro as the leading energy hub in Brazil. At the same time, investments in **Infrastructure** (BRL 41.0 billion) stand out, aimed at expanding and modernizing the logistics infrastructure of the state, including highways, railroads, ports, and mobility and transportation projects; **Manufacturing** (BRL 25.6 billion), with major projects in the maritime, petrochemical, steel, and automotive sectors; **Urban Development** (BRL 20.3 billion), particularly in sanitation; and **Other Sectors** (BRL 25.0 billion), a category that includes investments in areas such as health, education, public safety, among other initiatives.

These investments are widely distributed across the state, covering all regions and combining large-scale public and private projects. Among the main drivers of growth are the expansion of logistics infrastructure, the modernization of industrial facilities, investments in urban mobility, and the universal provision of sanitation services—factors that strengthen competitiveness and improve the business environment in Rio de Janeiro.

This set of investments reaffirms Rio de Janeiro as one of the leading investment destinations of Brazil, combining leadership in the energy sector with advances in infrastructure, industry, logistics, and urban development, creating favorable conditions for sustainable economic growth and for attracting new ventures.

Firjan International – Your business partner around the world

About us

The International Department of the Federation of Industries of the State of Rio de Janeiro (Firjan), commonly known as Firjan International, has the primary mission of promoting business dialogue between industries in the State of Rio de Janeiro and their international counterparts. Our goal is to expand overseas markets for all sectors of the industry in Rio, foster institutional and business partnerships, and help to create an environment that favors international business in Rio de Janeiro.

6

Firjan International work — grounded in a 32-year track record of supporting the internationalization of the industry in Rio — translates into a portfolio of initiatives to assist industry associations, their member companies, and Firjan CIRJ members. Furthermore, Firjan International is part of the Brazilian International Business Centers Network, led by the National Confederation of Industry.

At Firjan International, we facilitate daily business matchmaking between companies in Rio de Janeiro and abroad; identify emerging international trends, technologies, and business models; establish partnerships with diplomatic and paradiplomatic bodies and

counterpart organizations in other countries; and provide tailored support to foreign investors to ensure a smooth market entry into the state of Rio de Janeiro. Firjan International is also tasked with advocating for the interests of the industry in Rio regarding foreign trade, international relations, and access to global markets while helping to overcome obstacles and barriers in the industrial internationalization process. Firjan's international activities are further supported by the Business Council for International Relations. The council monitors key issues relevant to boosting foreign trade and international relations, analyzes the global landscape and its impact on the Brazilian market, and formulates proposals to enhance the competitiveness of the industry in Rio and Brazil.

CONTACT US



internacional@firjan.com.br

Petroleum Yearbook in Rio 2026

In this edition:

International scenario

Oil Geopolitics

Local Content

Pre-Salt

OffShore

New frontiers

Refining

Labor Market

Industrial Development

What you will find

Analyses and perspectives on the main topics impacting the oil industry in Rio de Janeiro, with exclusive data, trends and insights to support strategic decision-making and drive industry development.



11th edition | JUN. 2026

What you will find in this publication

The Federation of Industries of the State of Rio de Janeiro presents the 11th edition of the **Petroleum Yearbook in Rio**, reaffirming its commitment to strengthening competitiveness and the business environment for the oil and gas production chain of the state. Against a background of geopolitical and energy-related changes, the publication begins with an analysis of the international context and an updated overview of the market in Rio de Janeiro in 2025.

The publication is, then, organized into four major thematic sections that bring together analyses, studies, and articles by leading experts and institutions. The content addresses the main challenges, trends, and opportunities of the industry, offering a comprehensive overview of the factors that influence competitiveness and market development.

By integrating strategic indicators, technical analyses, and specialized articles, **Anuário do Petróleo no Rio 2026 (2026 Petroleum Yearbook in Rio)** emphasizes the importance of the market as one of the main sources of innovation, competitiveness, and economic development in the state. The publication invites readers to reflect on the current challenges and the opportunities that will shape the future of the oil and gas industry in Rio de Janeiro.

The **World** section analyzes the international scenario, highlighting the realignment of the oil market from the perspective of global geopolitics, with contributions from **Rystad Energy**, whereas the Brazilian Energy Research Company discusses the outlook for long-term energy planning in Brazil.

In the chapter on **Exploration and Production**, experts address strategic issues related to market competi-



tiveness. **Firjan** analyzes the challenges and opportunities of the Local Content policy; the **Department of State** presents the perspectives for new exploration frontiers; **Pré-Sal Petróleo S/A** discusses the remaining potential of the pre-salt layer; **Siemens Energy** explores the role of technological innovation in the future of offshore operations; **Associação Brasileira dos Produtores Independentes de Petróleo e Gás** analyzes the evolution of the business environment for small and medium-sized producers; and **Veirano**



Advogados presents the impacts of the new General Environmental Licensing Law and the expansion of the scope of operations of the Brazilian Institute of Environment and Renewable Natural Resources.

The **Supply** segment highlights the strategic role of the **Boaventura Complex**, presented by **Petrobras**, as one of the key drivers for strengthening the downstream sector of Brazil.

To conclude the publication, the section **Socioeconomic Impacts** discusses the impact of industry on so-

ciety. **Organização Nacional da Indústria do Petróleo** discusses the integration of the production chain as a tool for generating new business, whereas **Firjan** showcases the economic and social benefits of the oil industry. To add to this perspective, **Firjan SENAI (National Service for Industrial Training) SESI (Industrial Social Services)** emphasizes professional training as an essential element for transforming the wealth generated by the market into human development, innovation, and opportunities for the population.

Data from the Petroleum Yearbook in Rio



59.43%

of fossil fuels in Brazil. Share in the energy mix below the global average of 85.27%.

BRL 3.8 billion



RD&I invested in oil exploration and production.



9th largest oil producer

the Brazilian position among the producing countries.

BRL 4.1 billion



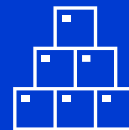
RD&I invested in cross-cutting areas, such as safety, materials and refining.



9th largest oil producer

the position of Rio de Janeiro position among the producing countries if it were a country.

88.48%



of the proven offshore reserves are located in the state of Rio de Janeiro.



Over 3.73 million barrels per day

Record oil production in Rio de Janeiro, which maintains its commanding lead nationwide in 2026.

Over BRL 35 billion in 2024



The trade surplus of Rio de Janeiro in oil remained at a record high, close to the 2023 figure. Compared to 2010, the amount has more than tripled.

Data from the Guide to Government Shares



BRL 250.40 billion

Total royalties generated via Rio de Janeiro from 2020 to 2025.



BRL 152.86 billion

Total amount generated during the same period via special-participation shares in the state.

BRL 48.94 billion



Total amount received by municipalities in Rio de Janeiro via royalties during the period.

BRL 55.71 billion



Total amount received by the state via special-participation shares during the same period.

BRL 13.93 billion



Total amount received by municipalities in Rio de Janeiro via special-participation shares during the period.

BRL 43.70 billion



Total amount received by the state via royalties during the same period.



BRL 159.16 billion

Total wealth generated in the state and transferred to the federal government and to other states from 2020 to 2025.

Map of Oil Production in Rio de Janeiro

An integrated view of the key resources and infrastructure of the oil industry in Rio de Janeiro, connecting offshore production to processing, transportation, distribution, and consumption activities. The preview

enables users to identify the location of resources, the connections between sea and land, and market opportunities.



Leadership in domestic production

Rio de Janeiro is the leading oil-producing region of Brazil, currently accounting for **88% of the national production**.



Offshore production and the key role of the pre-salt layer

Production in Rio de Janeiro State takes place predominantly in offshore environments, in the Campos and Santos basins. About **90% of pre-salt oil production comes from the state**, underscoring its central role in the Brazilian energy sector.



Campos and Santos Basins

The Campos Basin is home to a large portion of the mature fields and revitalization projects, whereas the Santos Basin is home to major pre-salt giant fields and new areas of production expansion.



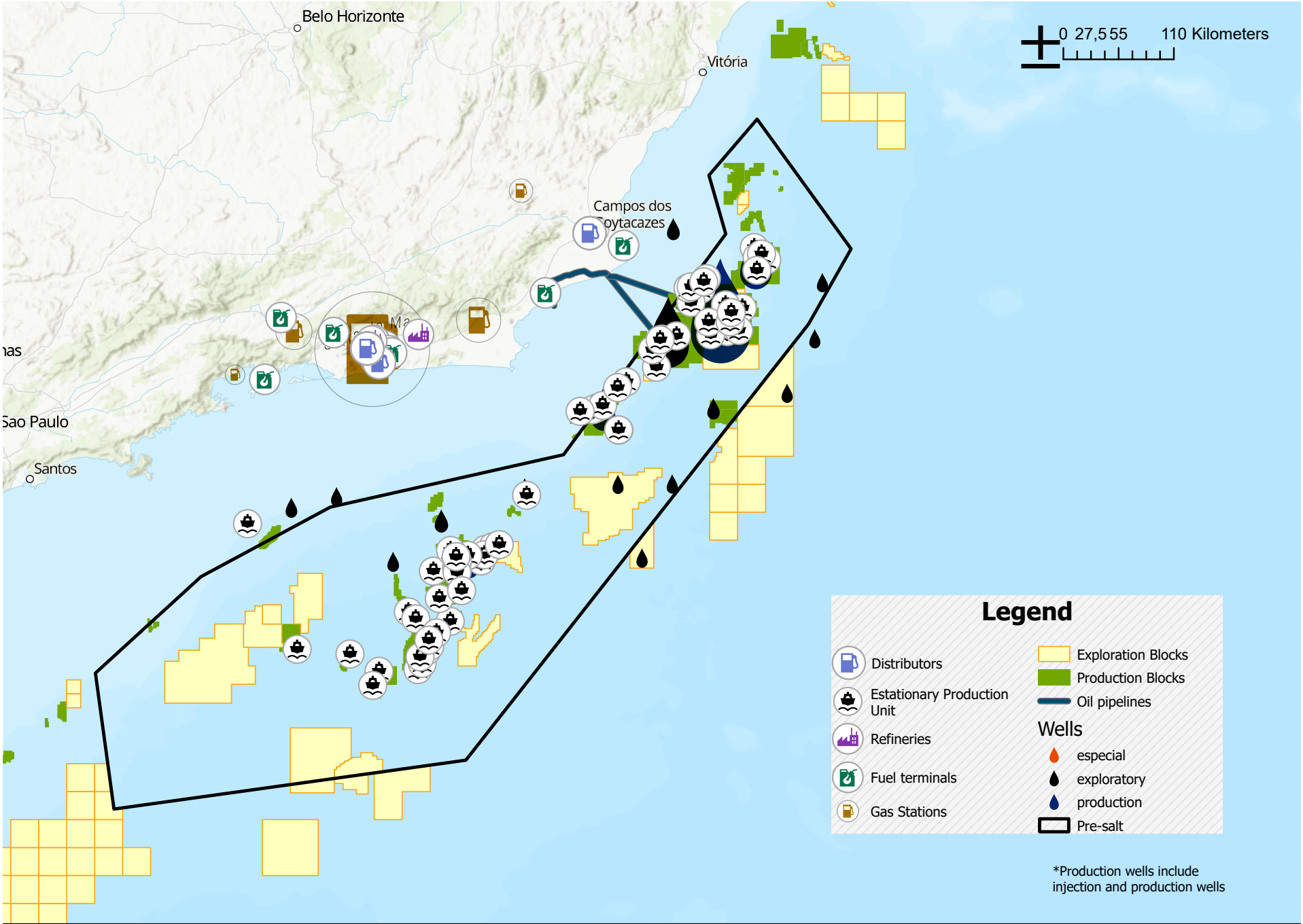
Integration of the production chain

The map includes production areas, exploration blocks, drilled wells, rigs, oil pipelines, refineries, storage terminals, distributors, and gas stations.



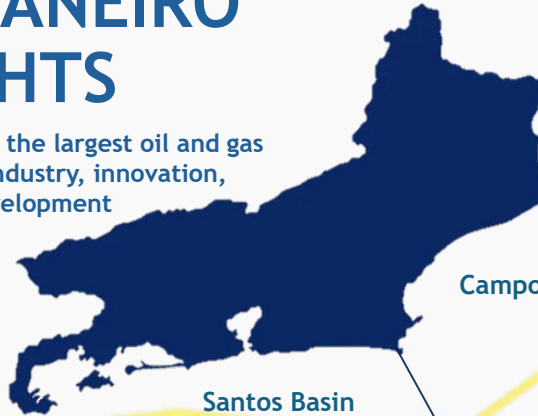
The map highlights Rio de Janeiro's central role in energy security, attracting investment, and the development of Brazil's oil industry. Access the interactive map using the QR code.

Rio de Janeiro Oil Industry Map



RIO DE JANEIRO HIGHLIGHTS

Rio de Janeiro remains the largest oil and gas hub in Brazil, driving industry, innovation, and socioeconomic development



Campos Basin

Santos Basin

OIL PRODUCTION

3.77

Million b/d in 2025



3.31

Million b/d in 2025



No. OF STATIONARY PRODUCTION UNIT.



63

Stationary Production Unit. in operation

34 Campos Basin

29 Santos Basin

PRODUCTION BASINS



2

Campos Basin and Santos Basin

TRADE BALANCE CRUDE OIL

EXPORT USD 38.815.298.035

IMPORT USD 2.352.287.893

Distributor Sales:

Hydrated Ethanol 1,158 Million l

Gasoline C 2,547 Million l

LPG 904,000 m³

Diesel fuel 2,818 Million l

INSTALLED CAPACITY:



268.895,4
b/d

REFINERIES:

REDUC (Duque de Caxias Refinery) 251,592 b/d
MANGUINHOS 17,303 b/d

PROVEN RESERVES

15,473

million bbl

OIL PROCESSING
in 2025:

225,683
b/d

GOVERNMENT SHARES

State and its municipalities



Royalties: **BRL 30.23 bi**

Special Shares: **BRL 14.72 bi**

Total: **BRL 44.95 bi**

INFRASTRUCTURE



14 TERMINALS

28 DISTRIBUTORS

No. OF EMPLOYEES

94,297



Jobs in the supply chain for O&G in 2025

For further information, visit our dynamic dashboard:



Rio Natural Gas Outlook 2025 – 2026

In this edition:

Taxation

Regulation

Infrastructure

Free market

Biomethane

Investments

Industrial competitiveness

What you will find

The publication brings together technical analyses on the main challenges and opportunities to build a more competitive, efficient and sustainable natural gas market in the State of Rio de Janeiro.



8th edition | JAN. 2026

The natural gas market in Rio de Janeiro is undergoing a profound transformation driven by market liberalization, improvements to the regulatory environment, changes to the tax system, and the growing integration of natural gas into the energy transition agenda. These factors have been expanding the strategic role of fuel as a key element in enhancing industrial competitiveness, energy security, and the sustainable economic development of the state.

In this changing scenario, it is essential to understand the challenges and opportunities that will shape the future of the market. The development of infra-

structure, the modernization of the supply chain, the expansion of the free market, the development of biomethane, and integration with new energy technologies reinforce the potential of Rio de Janeiro to consolidate its position as one of the leading natural gas hubs of the country.

To that end, the 8th edition of ***Perspectivas do Gás no Rio 2025-2026*** (Gas Perspectives in Rio 2025-2026) gathers technical analyses, studies, and contributions from public institutions, companies, and experts working in various segments of the natural gas supply chain. The publication offers a comprehensive overview of topics such as regulation, taxation, infrastructure, investment, the free market, industrial competitiveness, and the energy transition, presenting insights that support public policy formulation and strategic decision-making.

The 8th edition of “**Perspectivas do Gás**” gathers contributions from public institutions, companies, and experts working in various segments of the natural gas supply chain. Organized around **four strategic axis**, the publication presents a comprehensive overview of the main challenges and opportunities for developing a more competitive and efficient market that is aligned with the energy transition.

In the **Taxation** axis, the **Brazilian Federal Revenue Service**, **INFIS Consultoria**, and **Origem Energia** analyze the impacts of the tax reform on the market, addressing topics such as single-stage taxation, selective taxes, price formation, economic competitiveness, and the role of the in state goods and services tax in attracting investment to Rio de Janeiro.

The “**Regulation**” section gathers contributions from the **Ministry of Mines and Energy**, the **CdU**, and **Mattos Filho**, discussing the evolution of the regulatory



environment, market governance, user participation, and the legal and institutional challenges arising from the liberalization of the natural gas market.

On the topic of **infrastructure**, the **Energy Research Company**, **BNDES** (the National Bank for Economic and Social Development), and **Petrobras** analyze energy planning, supply expansion, financing for new projects, access to essential infrastructure, and the

role of natural gas and biomethane in energy security and decarbonization.

To conclude the publication, the **“Business Models”** axis presents contributions from **Naturgy** and **Sinergías** that explore the evolution of the free market, the role of distributors, and the growth of biomethane, with a focus on initiatives aimed at certifying origin and developing new business models.



Data from Rio de Janeiro Gas Outlook

400 billion m³ in proven reserves



in offshore environments
in 2024

136,647.11 thousand m³/day



gross production in Rio de Janeiro,
underscoring its great importance to
the national supply in 2025.

76.74% of the domestic production



Rio de Janeiro, the largest producer
in Brazil, accounts for a share
greater than the combined total of
the next four states in 2025.

69.29% of the reinjected CO₂



The percentage relative to Rio de
Janeiro in the total volume for the
analyzed period. Rio de Janeiro and
São Paulo account for more than 99%
in 2025.

15 gas transmission pipelines



approximately 953 km long,
connecting production areas to
processing facilities and major
delivery points.

402 companies



qualified to operate in the market.
Marketing leads the way, with 214
authorizations in 2025.

Profile of sectoral demand in Rio de Janeiro in 2025



INDUSTRIAL 28%



RESIDENTIAL 4%



POWER GENERATION 42%



COMMERCIAL 2%



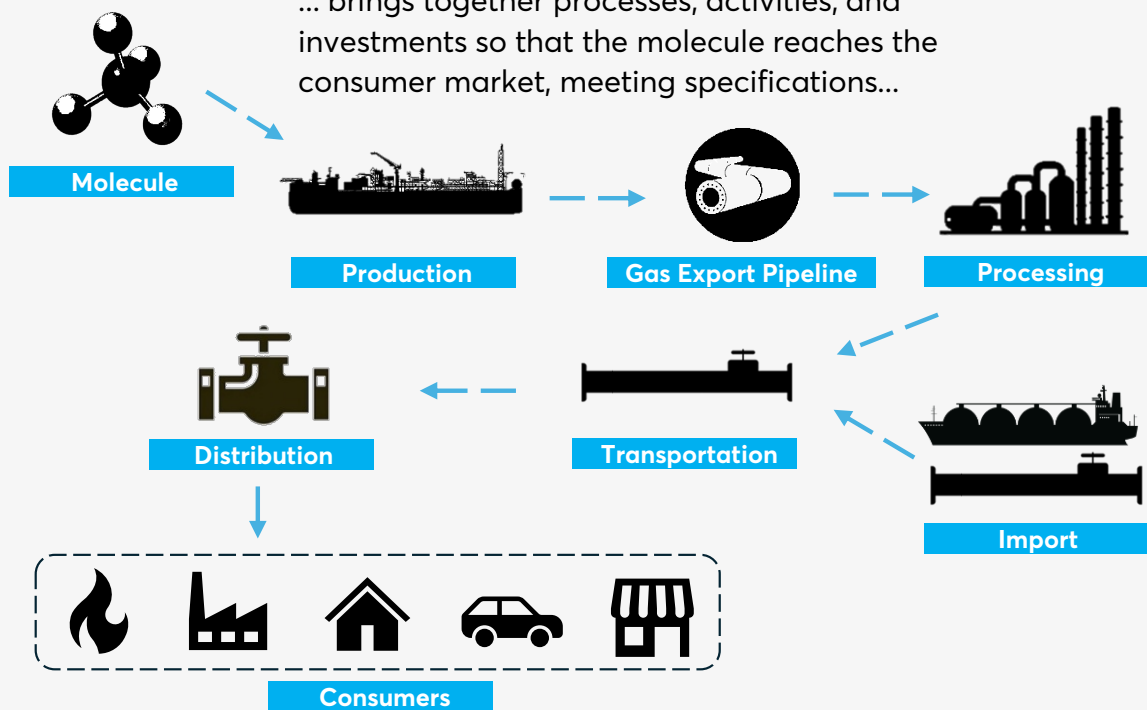
CNG 25%

Natural Gas Supply Chain



The natural gas supply chain, link by link...

... brings together processes, activities, and investments so that the molecule reaches the consumer market, meeting specifications...



... and unavoidably generating a return on the investments and operations at each stage of this chain.



Integrated Map of the Natural Gas Supply Chain in Rio de Janeiro

An integrated view of the natural gas supply chain, combining production, distribution, processing, transmission, and consumption resources in the state.



Production and Processing

Identification of production fields, rigs, processing facilities, and other resources related to the supply of natural gas.



Drainage and Transportation

Map showing the gas pipelines and the main routes connecting the production areas to onshore infrastructure.



Distribution and Consumption

Locations of distribution networks, thermal power plants, industrial facilities, and consumer markets served by natural gas.



Projects and Opportunities

Mapping of existing resources and projects under development, contributing to analyses of expansion, investments, and sectoral planning.

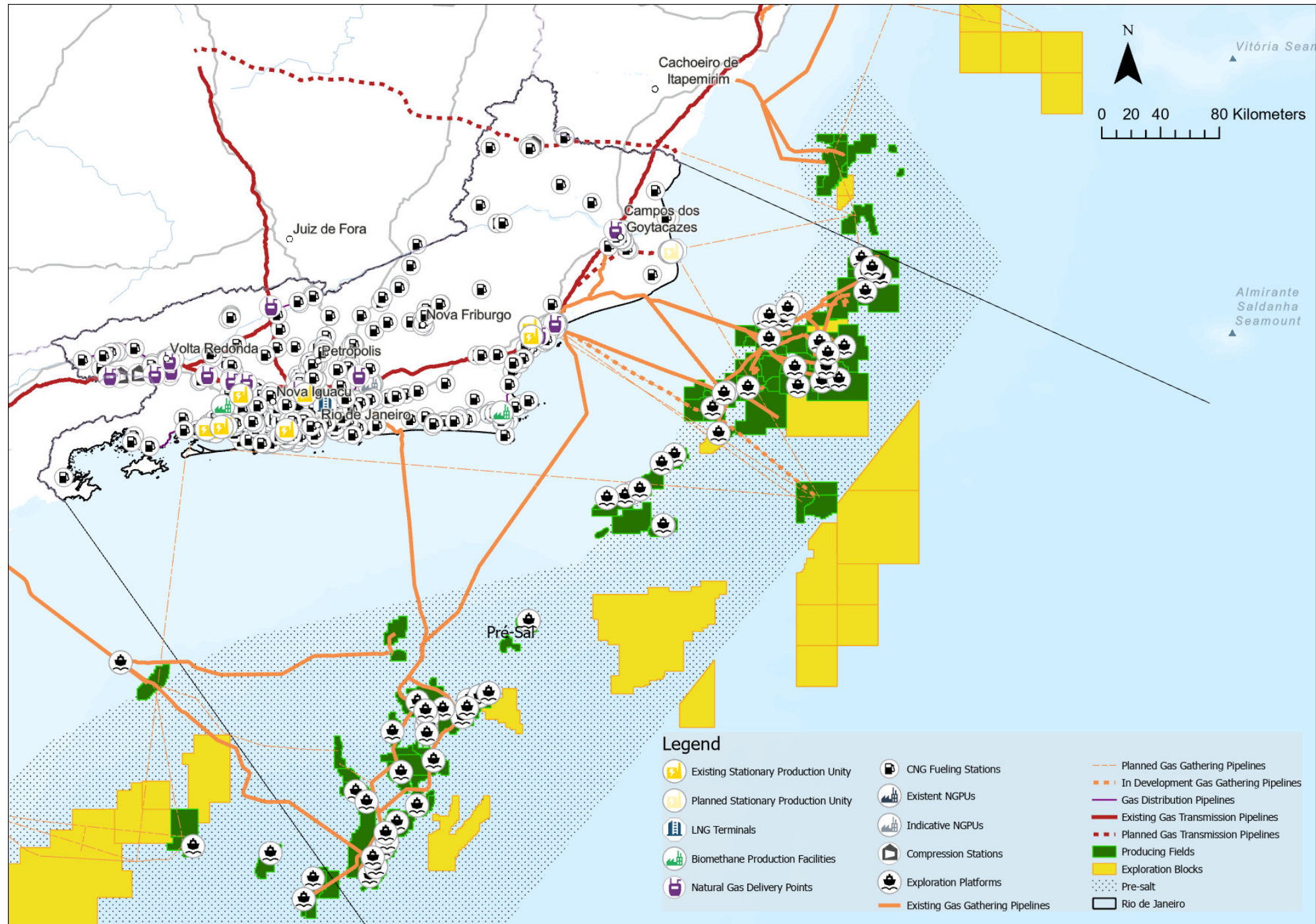
How to Explore the Map

Note the geographic distribution of resources, the connections between the links in the chain, and the proximity between infrastructure, projects, and consumption centers. The symbols and categories make it easier to identify each facility and provide a comprehensive overview of the natural gas market in Rio de Janeiro.



Open the page and learn about Rio de Janeiro's natural gas infrastructure

Integrated Map of the Natural Gas Supply Chain in Rio de Janeiro



Firjan Journey for Energy Transition in Industry

In this edition:

Regulation and Planning

New Energies

Cogeneration

Energy Efficiency

Nuclear Energy

Energy Market

Challenges and Opportunities

What you will find

Expert analyses and insights from leading institutions to guide strategic decisions and accelerate industry competitiveness on the path to a low-carbon economy.



2nd edition | OCT. 2025

What you will find in this publication

The energy transition represents a global process of transformation driven by the diversification of energy sources, the decarbonization of industrial processes, and the advancement of more efficient and sustainable technologies.

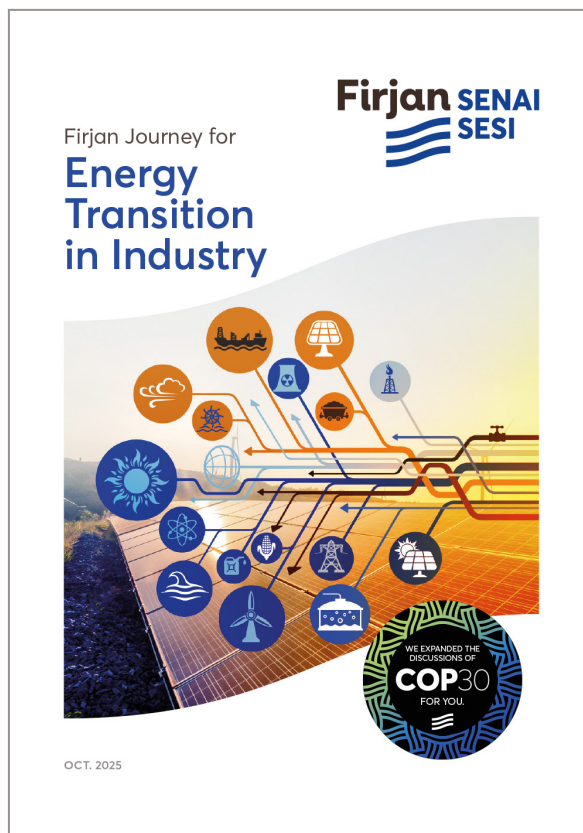
This initiative seeks to balance the growth in energy demand with the reduction of emissions, the achievement of social and environmental goals, and the promotion of economic development and quality of life.

In Brazil, this progress is evident in the expansion of renewable energy sources, which rose from **39.4% of total energy supply in 2014 to 50% in 2024**, reinforcing the Brazilian position as a global leader in low-carbon energy matrices.

In this context, Rio de Janeiro is expanding its role by combining their leadership in oil and gas production with the development of new energy sources, such as offshore wind, solar photovoltaic, and hydrogen.

The publication provides a comprehensive overview of the main challenges, opportunities, and routes for building a more competitive, resilient, and sustainable economy via the energy transition.

The introduction to the publication is provided by **Firjan**, which offers an overview of the potential in the energy transition of the State of Rio de Janeiro, highlighting projects, initiatives, and opportunities related to renewable energy sources and new technologies. Next, the Brazilian National Electric Energy Agency, the Electricity Trading Chamber, and the **Brazilian Energy Research Company** address issues related to the regulatory environment, energy planning, energy



trading, and the efficiency gains needed to accelerate this transformation.

In the field of emerging technologies, the Brazilian Association for the Development of Nuclear Activities, **Associação Brasileira de Energia Nuclear**, and **Associação da Indústria de Cogeração de Energia** are discussing the role of nuclear energy, the training of a skilled workforce, and cogeneration as solutions to enhance the safety, reliability, and resilience of the energy system.



The publication also includes analyses by **Enel**, **Engie**, **Light Energia**, and **Mattos Filho**, covering topics such as quality of life, natural gas, reversible hydroelectric plants, and the evolution of the legal and regulatory frameworks underpinning the energy transition in Brazil.

To conclude this edition, **Petrobras** and **Transpetro** present initiatives aimed at decarbonizing emis-

sion-intensive industrial sectors, with a focus on offshore innovation projects, carbon capture and storage, and new technologies applied to maritime transport. By combining different perspectives on regulation, innovation, infrastructure, new energy sources, and decarbonization, the publication offers a comprehensive overview of the paths toward a more competitive, secure, and sustainable energy matrix.

Data from the Rio de Janeiro Energy Projects Dashboard

Energy Transition Conference in Rio

USD 219.85 billion



Total amount of the portfolio of mapped investments.

35.16% of CAPEX



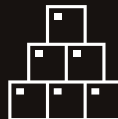
share of renewable energy in the total portfolio value.

About 60%



of investments are still concentrated in oil and gas projects.

25 E&P projects



portfolio's primary specific classification.

24 projects



mainly decommissioning and thermal power generation projects, with 12 projects each.

17 renewable energy projects



planned for the post-2030 period, when renewable energies, especially offshore wind power, will play a more prominent role in the portfolio.



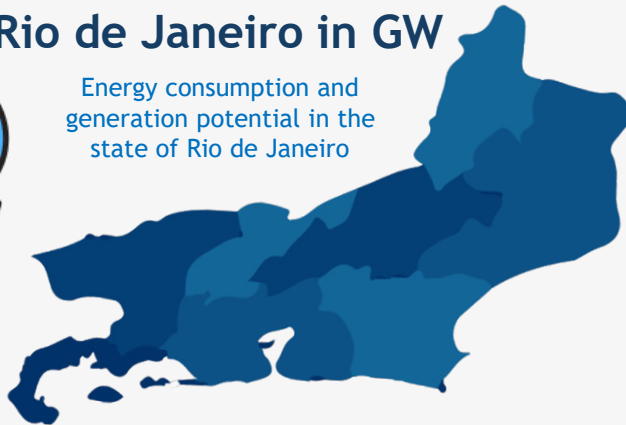
USD 396.7 million in 2026

Investments projected for the year are expected to remain at a high level.

Rio de Janeiro in GW



Energy consumption and
generation potential in the
state of Rio de Janeiro



Energy Consumption in 2025



3,000 GW/h

Residential,
commercial, rural, and
industrial demand



44,000 GW/h

Domestic
demand



700 GW/h
Industrial



16,000 GW/h
Industrial

Generation Potential 2035+

28 GW

in offshore
wind power



3.4 GW

in solar power



7.4 GW

Power from gas
thermal power plants



Over 30 power generation projects, including offshore wind
farms, thermal power plants and hydrogen, in addition to
the planned expansion of distributed generation through
solar PV and small hydroelectric plants

Sources: the Brazilian Energy Research Company, the Brazilian National Electric Energy Agency, the Brazilian National Electricity System Operator and Firjan (the Federation of the Industries of the State of Rio de Janeiro)

Map of the Rio de Janeiro Energy Hub

An integrated view of the energy ecosystem in Rio de Janeiro, linking natural resources, infrastructure, and strategic projects to drive the sustainable development and competitiveness of the state.



Integration of Multiple Energy Sources

The map shows various energy sources and highlights the complementary nature of oil, natural gas, offshore wind power, low-carbon hydrogen, biofuels, and other renewable sources.



Connection between onshore and offshore

The visualization integrates onshore and offshore infrastructure, including production fields, ports, terminals, gas pipelines, transport pipelines, shipyards, and industrial hubs.



Strategic Projects and resources

The locations of major projects and resources make it possible to identify investment opportunities, logistics connections, and potential synergies in different supply chains.



Energy Transition Planning

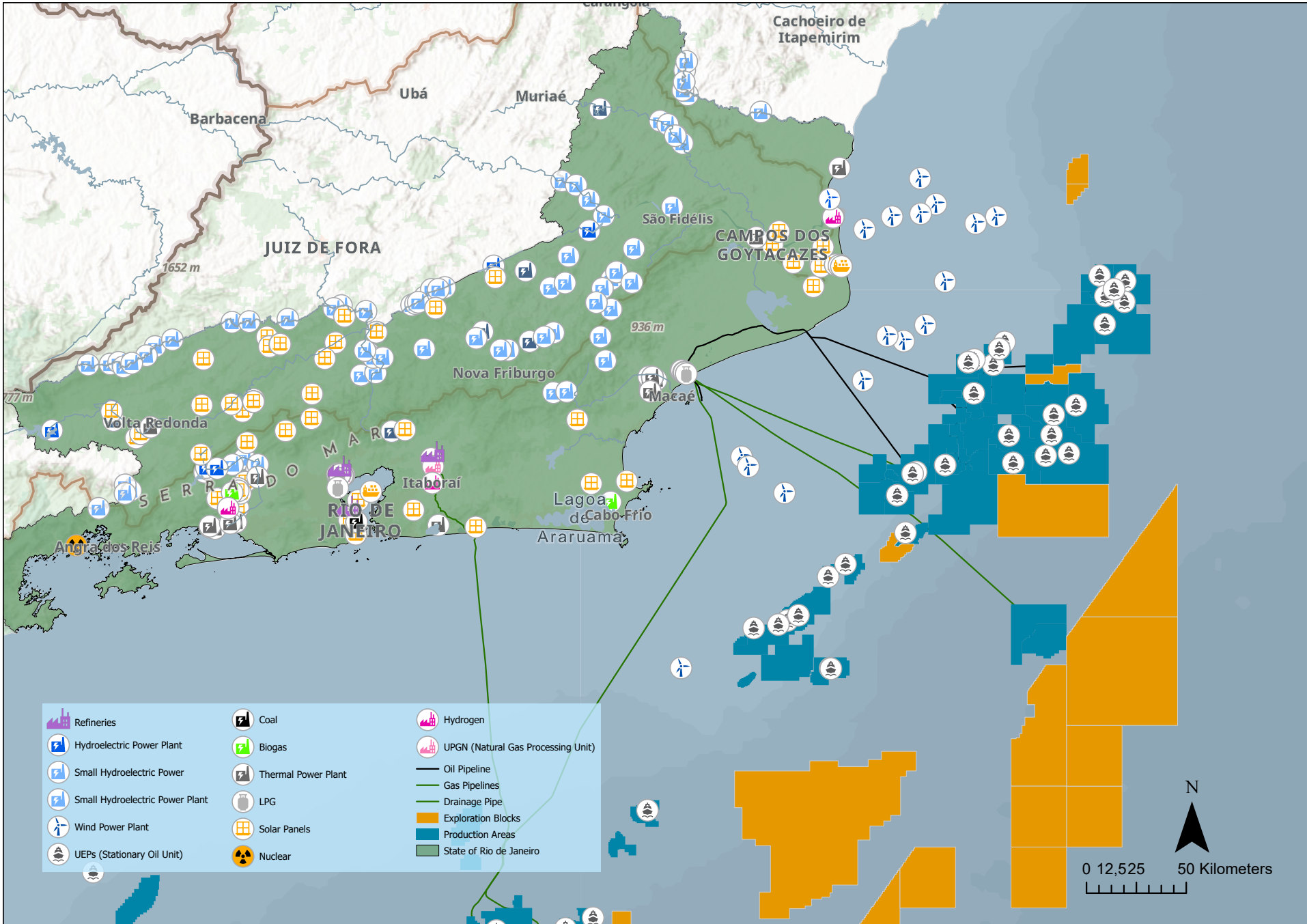
The map serves as a tool to support energy planning, contributing to analyses of security of supply, competitiveness, innovation, and the decarbonization of the economy of Rio de Janeiro.

The Rio de Janeiro Energy Hub strengthens its strategic position and helps to build a more secure and competitive energy future.



Open the page and learn about the natural gas infrastructure of Rio de Janeiro

Map of the Rio de Janeiro Energy Hub





Maritime Industry Overview in Rio de Janeiro 2026

In this edition:

Shipbuilding

Offshore

Logistics

Decommissioning

Offshore Wind

Defense

Ports

Professional Training

What you will find

Expert analyses and insights from leading institutions on the main trends, challenges, and opportunities driving the maritime industry in Rio de Janeiro, including innovation, infrastructure, sustainability, and competitiveness.



7th edition | **AUG. 2026**

What you will find in this publication

The 7th edition of *Panorama Naval* (Maritime Industry Overview) is taking place against the background of major changes in the Brazilian maritime industry. The country has favorable conditions to spur a new cycle of growth driven by the expansion of oil and gas exploration and production, the renewal of the merchant and maritime support fleet, the expansion of

logistics infrastructure, the strengthening of the maritime economy, the advancement of offshore renewable energy, and the growing importance of the defense industrial base.

This range of opportunities positions the maritime industry as one of the pillars of the economic and industrial development of the country. However, for this potential to translate into concrete results, it is essential to foster a competitive business environment that provides regulatory certainty, encourages innovation, trains a skilled workforce, and promotes greater integration between the government, businesses, research institutions, and other stakeholders in the production chain.

The publication begins with an analysis by Firjan SENAI SESI on the key role played by the coast of Rio de Janeiro in the economic and industrial development of the state. Next, the chapter ***Cenários da Indústria (Industry Scenarios)*** features contributions from Associação Brasileira das Empresas da Economia do Mar, Sindicato Nacional da Indústria da Construção e Reparação Naval e Offshore, Associação Brasileira de Empresas de Apoio Marítimo, Sindicato Nacional das Empresas de Navegação, Organização Nacional da Indústria do Petróleo, Rystad Energy, and Associação Brasileira da Indústria de Máquinas e Equipamentos, addressing topics such as competitiveness, industrial policy, predictability, strengthening the supply chain, technological innovation, and international experiences.

**Firjan SENAI
SESI**

Panorama Naval no Rio de Janeiro 2026

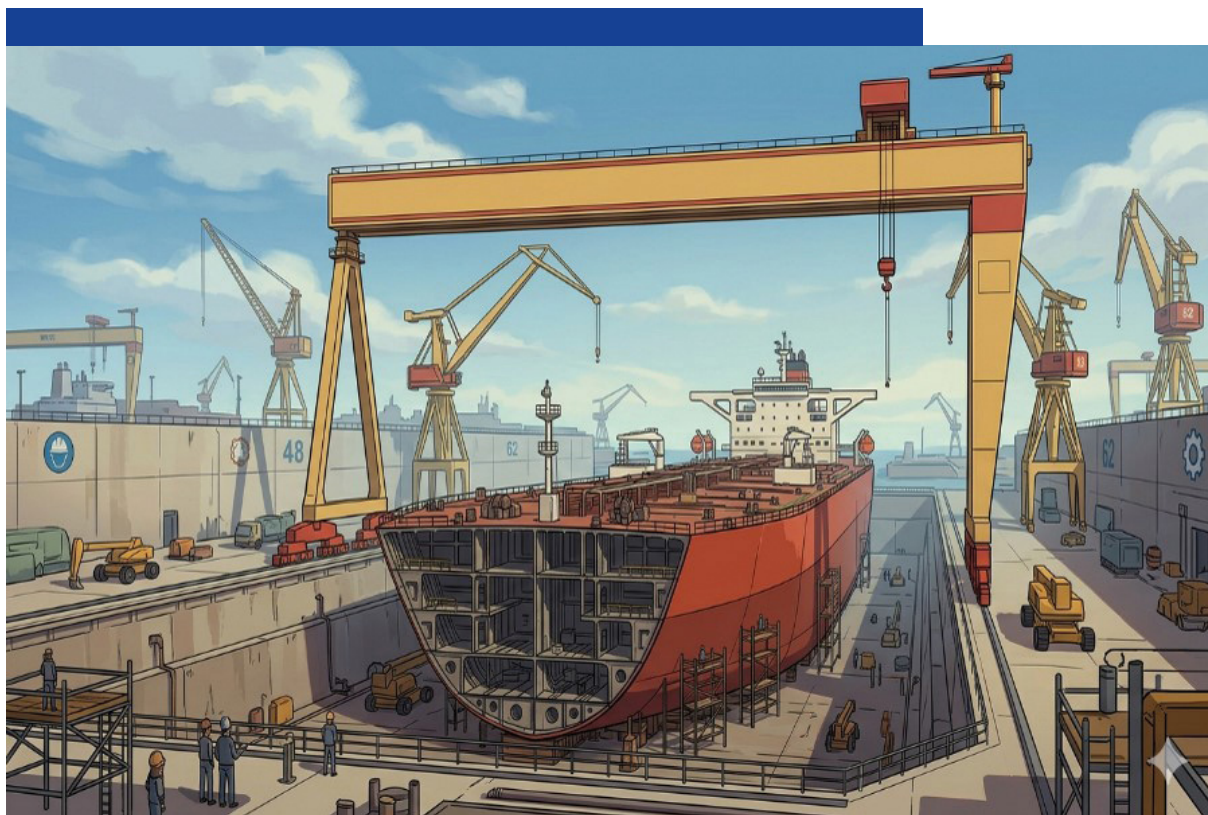


AGO, 2026

In the chapter **Mercados (Markets)**, Petrobras and SBM Offshore present outlooks for the offshore market and the new investment cycle, whereas Associação Brasileira de Energia Eólica and Secretaria de Energia e Economia do Mar explore opportunities in the blue economy and the development of offshore wind energy for the shipbuilding industry.

The publication also devotes chapters to **Defense**, featuring the Brazilian Navy's perspective on the Defense Industrial Base; to **Logistics**, with analyses of Transpetro, Allseas, and Edison Chouest; **Industrial and Regulatory Policy**, featuring contributions from Agência

Nacional de Transportes Aquaviários and BNDES on port infrastructure, decarbonization, and financing; and **Professional Training**, in which Firjan SENAI highlights the role of innovation, technology, and professional training in increasing market competitiveness. Combining different perspectives on shipbuilding, the offshore sector, defense, logistics, renewable energy, and public policy, *Panorama Naval* offers a comprehensive view of the opportunities that can drive a new cycle of development for the Brazilian shipbuilding industry.



OVERVIEW OF THE MARITIME INDUSTRY



SHIPYARDS



BRAZIL RIO DE JANEIRO

49 24

Rio de Janeiro is home to 49% of the shipyards in Brazil

ESTATIONARY PRODUCTION UNIT

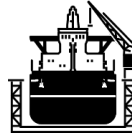


BRASIL RIO DE JANEIRO

77 63

Rio de Janeiro accounts for 82% of the operating rigs in Brazil

SUPPORT VESSELS



BRAZIL

471

JOBS AND RECRUITMENTS

RELATED TO THE SHIPBUILDING MARKET

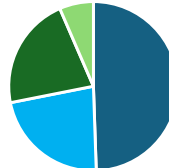
	BR	RJ
 JOBS CREATED	181,431	66,046
 NEW RECRUITMENTS (2025)	3,561	2,472
 JOBS IN SHIPYARDS (2025)	49,995	37,005

WATER TRANSPORT

1.4 BILLION tons transported in 2025

VAR. % (2025/2024)
+ 6.1%

CAGR (2010-2025):
+3.5%



- Long Course – Export
- Long Course – Import
- Cabotage
- Inland Navigation

1.59 BILLION tons by 2030 (Projection)

Source: ANP (Brazilian National Agency for Petroleum, Natural Gas and Biofuels); CAGED (General Register for Employed and Unemployed Persons); SINAVAL (National Union for Shipbuilding and Repairing Industry); EPE (Energy Research Company); ANTAQ (National Agency for Waterway Transportation)

Access to dynamic data :



Offshore Wind Farms in Rio de Janeiro

WINDS THAT SHAPE THE FUTURE.
OPPORTUNITIES THAT DRIVE DEVELOPMENT.



RIO DE JANEIRO'S POTENTIAL



1.034

MAPPED WIND
TURBINES



15,509 MW

OF POWER
UNDER LICENSE



6,698 km²

OF TOTAL SURFACE
UNDER LICENSE



3rd

LARGEST MAPPED
AREA IN THE
COUNTRY

Source: Brazilian Institute of Environment and Renewable Natural Resources

STRATEGIC LOCATION



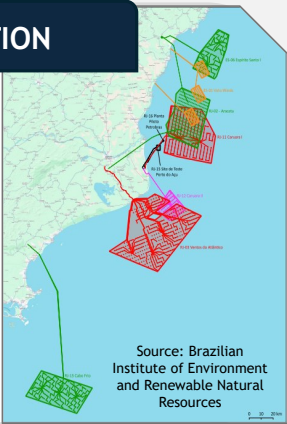
Strong, steady
winds



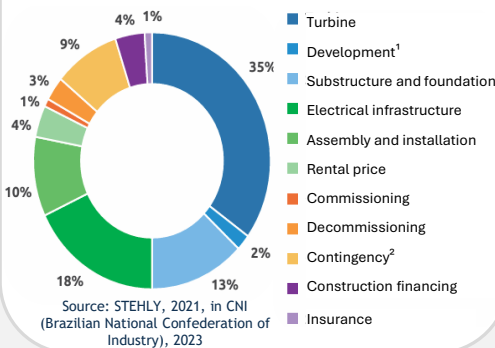
Proximity to ports,
shipyards, and logistics
support bases



High energy demand in
the Southeast region



CAPEX BREAKDOWN FOR A FIXED-BASE OFFSHORE WIND TURBINE



OPPORTUNITIES FOR THE SHIPBUILDING INDUSTRY AND THE PRODUCTION CHAIN

Each project requires an extensive chain of goods, services, and infrastructure.



SHIPYARDS AND
LOCAL INDUSTRY

Manufacturing of
structures,
towers,
foundations,
subsea cables, and
metal-mechanical
components.



INSTALLATION AND
CONSTRUCTION

Specialized vessels
(jack-ups, floating
cranes, service
operation vessels),
tugs, component
integration, and
offshore services.



SUPPORT
VESSELS

Necessary for the
transportation of
teams, parts, and
equipment in
addition to
maintaining the
wind farms.



OPERATION AND
MAINTENANCE

Long-term operation
and maintenance
contracts,
generating skilled
jobs and recurring
revenue.

Mapping of Suppliers in the Rio de Janeiro Shipbuilding Industry

The mapping identifies more than 500 companies directly related to the shipbuilding industry in the state of Rio de Janeiro, highlighting the scale and importance of this industrial base.

The highest concentration is found in the Metropolitan and Eastern Rio de Janeiro State regions, which stand out as the main hubs of naval of the state.

Despite a higher concentration of businesses in these

regions, the presence of companies in different areas of the state of Rio de Janeiro demonstrates the reach of the supply chain and its ability to connect distinct regional markets.

This industrial infrastructure supports construction, repair, maintenance, equipment supply, and specialized services, underscoring the importance of the shipbuilding sector to the economy of the state.

Supplier mapping for the shipbuilding supply chain

36

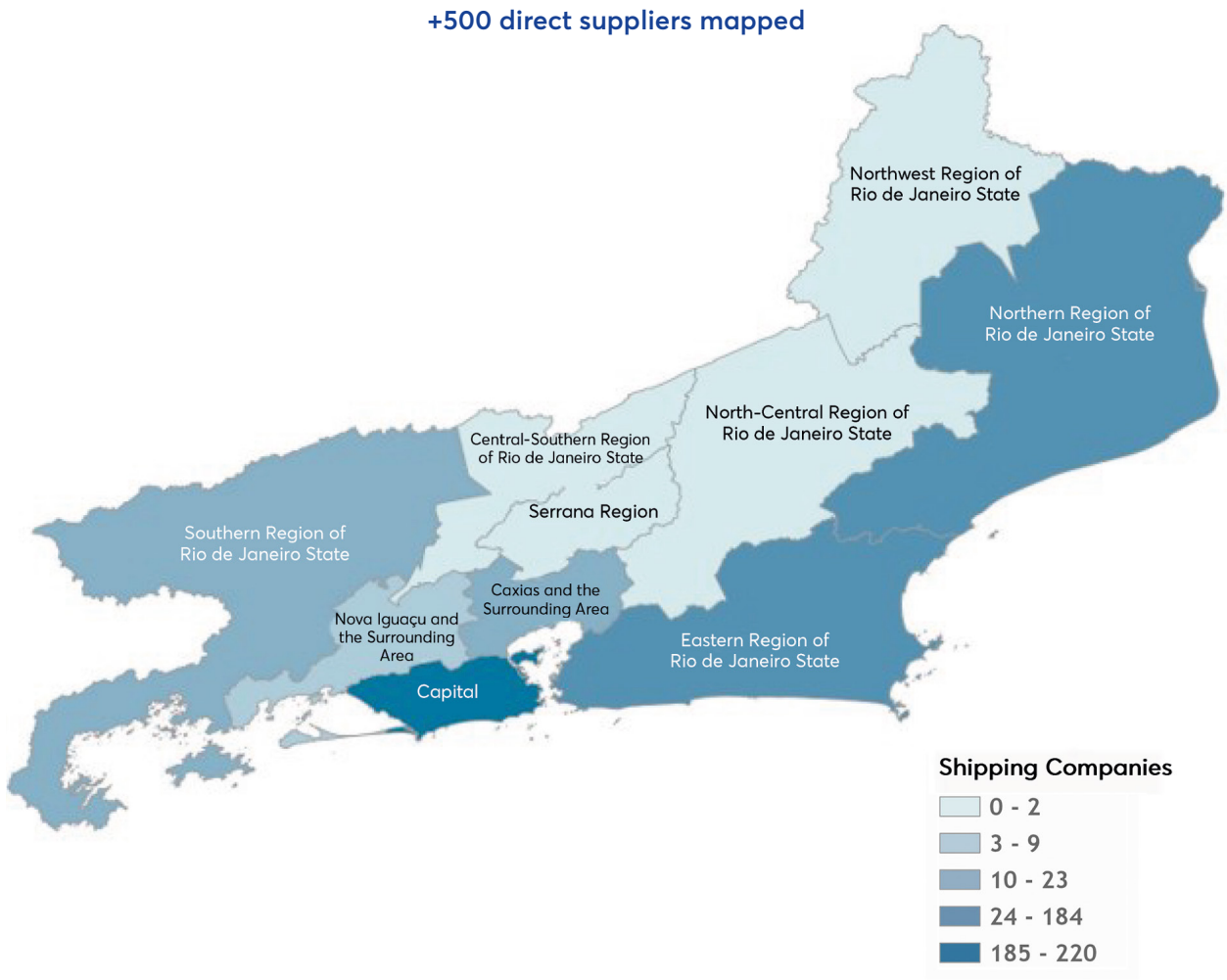
When considering the indirect and complementary links in the supply chain, the mapped network includes more than 2,000 suppliers, revealing a broad, diversified production network connected to various economic sectors.

The Metropolitan and Eastern Region of Rio de Janeiro State remain the main hubs of concentration, but the survey also shows that suppliers are spread across all regions of the state.

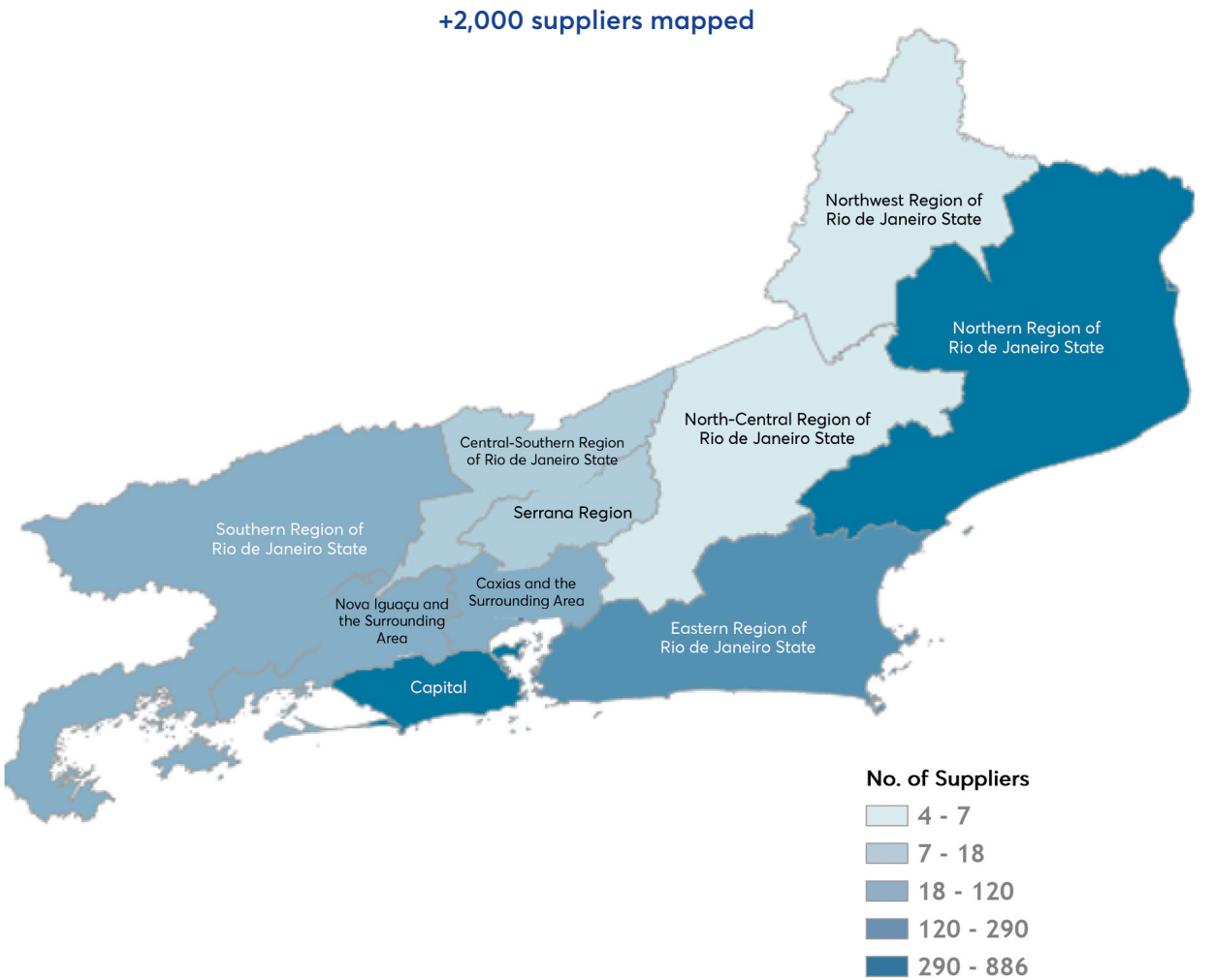
The supply chain includes companies that provide goods, services, technology, logistics, engineering, and industrial solutions, going beyond the traditional boundaries of the shipbuilding industry.

The mapping highlights the potential to boost local content, generate business, and foster integration among companies, contributing to increased competitiveness in the shipbuilding industry of Rio de Janeiro.

Supplier Mapping for the Rio de Janeiro Shipbuilding Industry



Supplier Mapping for the Shipbuilding Industry Supply Chain





Petrochemical and Fertilizers in Rio de Janeiro 2025

In this edition:

Financing

Plastics

Lubricants

Innovation

Projects

What you will find

This publication brings together articles from key market players who share their perspectives on the importance of new projects and investment attraction for the state of Rio de Janeiro.



4th edition | DEC. 2025

Petrochemicals and Fertilizers in Rio de Janeiro 2025

With a robust infrastructure for the petrochemical industry, including refineries, terminals, and industrial complexes, the state of Rio de Janeiro has focused on developing their production capabilities with the support of the Federation of Industries of the State of Rio de Janeiro — Firjan — and their member unions, boosting national competitiveness in these markets. Brazil remains one of the leading importers in the fertilizer segment, meeting about 85% of the domestic demand via foreign suppliers. This high level of dependence exposes agribusiness to price fluctuations and supply risks, which are exacerbated by instability in the international context—marked by conflicts and pressure tactics imposed by external powers, such as sanctions, trade barriers, and tariffs.

Similar challenges in the petrochemical industry. Domestic production of resins and polymers is still insufficient to meet domestic demand, resulting in approximately 45% of consumption coming from imports. This situation, combined with the downturn in the global petrochemical industry, the high cost of materials, and the pressure brought by energy prices in the country has limited the full utilization of the installed production capacity and the competitiveness of this industry in Brazil, increasing their exposure to fluctuations in the international market.

The publication *Petroquímica e Fertilizantes no Estado do Rio de Janeiro 2025* (Petrochemicals and Fertilizers in the state of Rio de Janeiro 2025), now in its 4th edition, compiles strategic information on the petro-

chemical and fertilizer industries, which are essential to strengthening the economies of Rio de Janeiro and Brazil.

This study also includes a new section dedicated to the lubricants segment. According to data from the Brazilian National Agency of Petroleum, Natural Gas, and Biofuels, lubricant sales volume increased in 2025. To elaborate this publication, **Firjan SENAI SESI**



brought together representatives from the government, the private sector, and labor unions, compiling 10 articles organized into three sections: Petrochemicals, Fertilizers, and Final Considerations.

BNDES — National Bank for Economic and Social Development — is introducing a new Petrochemicals department with an analysis of financing programs aimed at new projects and the decarbonization of the industry, including details on the procedures for applying for the support instruments offered by the Bank. **Petrobras** then presents its strategic vision for the market and the investments under evaluation in its latest Business Plan, highlighting the opportunities offered by the Boaventura Energy Complex, integration with refining operations, and expansion of Braskem in Rio de Janeiro. **Braskem** offers insights into the competitiveness and sustainability of the Brazilian petrochemical industry, highlighting the Transforma Rio Project, the largest investment in the Brazilian petrochemical sector in 15 years, which involves an investment of BRL 4.3 billion to expand production capacity using state-of-the-art technologies. **Simperj — Plastics Industry Union of the State of Rio de Janeiro** — highlights the importance of the plastics industry to the state of Rio de Janeiro, emphasizing its unique competitive advantage stemming from its proximity to refining facilities and the integration of the three generations of the petrochemical chain, which consolidate the position of the state as a national hub for plastics production. Also in the petrochemicals segment, **ICONIC** highlights the strategic role of lubricants in the energy transition, emphasizing how these products, in addition to reducing friction, contribute

to energy efficiency, lower fuel consumption, and reduced emissions.

The chapter dedicated on fertilizers includes a contribution from **MAPA — the Ministry of Agriculture and Livestock**, which analyzes the potential of domestic production and the Brazilian position on the international stage, highlighting challenges and opportunities. **EMBRAPA — the Brazilian Agricultural Research Corporation** — delves deeper into the discussion by highlighting the high dependence of Brazil on foreign imports and the need for innovation, emphasizing the creation of the Center of Excellence in Fertilizers and Plant Nutrition, headquartered in Rio de Janeiro, as a hub for integrating science, industry, and the field. The Port of Açu presents the integrated logistics and fertilizer projects, which are essential to the development of industry in the northern region of Rio de Janeiro state. And **SINPRIFERT — the National Union of the Fertilizer Raw Materials Industry** — concludes the segment with an analysis of the relationship between natural gas and fertilizer production in the state.

Finally, **Firjan SENAI Sesi** presents its Final Considerations, with the text "*Indústrias de petroquímica e de fertilizantes como base para geração de valor a partir do óleo, do gás e das energias*" (Petrochemical and Fertilizer Industries as a Foundation for Generating Value from Oil, Gas, and Energy), which highlights the consolidation of the role of Rio de Janeiro in transforming these resources into highly value-added products and positioning the state as a strategic hub for energy production and industrialization.

Dynamic Data on Petrochemicals and Fertilizers in Rio



A **24%**

reduction in PE (polyethylene) domestic imports, resulting from the expansion of the Braskem plant in Rio de Janeiro



5 petrochemical plants in industrial hubs



Over 50 million

m³/day of natural gas potential as feedstock in Rio de Janeiro via 3, and transmission pipelines – Routes 2, 3 and Raia.

Over 2,300



jobs in the Fertilizer and Petrochemical sectors in Rio de Janeiro



Over BRL 25 billion

in potential investments in these industries in Rio de Janeiro.



~BRL 300 million

in state goods and services tax collected from Fertilizer and Petrochemical activities in Rio de Janeiro.

Over 10 million



t/year of installed capacity for major petrochemical products



3

featured projects in Rio de Janeiro for Fertilizers

- Headquarters of the Center of Excellence in Fertilizers and Plant Nutrition
- Project for ammonia production at the Port of Açu
- Project for the production of urea and methanol in Macaé

INDUSTRY CAREER OFFICE



Connecting your industry with
new talent in the market.

The Industry Career Office is where you can find the professionals you need: current Firjan SENAI SESI students and alumni, as well as talented individuals seeking new opportunities across the industrial sector and its entire value chain.

The platform matches your company's job openings with candidate profiles to help identify the perfect fit.

Join the program and gain access to a pool of qualified professionals for the industry in Rio de Janeiro.



LEARN MORE.

escritoriodecarreira.firjan.com.br



Every safe operation starts **with high-quality** regulatory training.

In highly complex operations, excellence technical training provides a competitive advantage, by increasing safety and productivity while reducing costs and workplace accidents.

With extensive experience in the industry, Firjan Sesi supports Brazilian and international companies with safety training, preparing professionals to work efficiently and in compliance with Brazilian Regulatory Standards.



**Regulatory
Training
Centers**



**Virtual
Reality
Simulators**



**Mobile
Training
Units**



**Customized
and ready-to-use
training**



Learn more.

Firjan Sesi Health.
Specialists in solutions for the
future of industry.





Technology for a stronger and more competitive industry, ready for the future.

Firjan SENAI SESI is part of one of the largest private technology and innovation networks in Latin America, with expertise, infrastructure and specialists to drive industrial competitiveness.

Our work combines applied research and technological services, connecting different areas of expertise to transform challenges into solutions that contribute to an increasingly innovative and sustainable industry.

**We live for the future because the future lives
on technology.**

Discover our
integrated solutions.

